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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,889	08/20/2001	Martin Wernz	LNUP:108_US_	6425

7590 02/27/2004

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EXAMINER

GAKH, YELENA G

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,889

Applicant(s)

WERNZ ET AL.

Examiner

Yelena G. Gakh, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/20/01, 02/08/02
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Objections

1. Claim 18 is objected to because of the following informalities: it recites, "**said first the partial arm**". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 13, 15 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13 and 25 recite "robot arm (5)" and "grippers (6)", with the numbers obviously referring to the drawings. It is not clear, if the robot arm and grippers are meant to be limited to the structures demonstrated in the drawings.

Claim 15 recites the limitation "said linear shaft". There is insufficient antecedent basis for this limitation in the claim, since the parent claims 13 and 2 do not recite "a linear shaft".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-5, 13-14 and 21-24** are rejected under 35 U.S.C. 102(b) as being anticipated by Ivanov et al. (SU 1191256 A).

Ivanov discloses "automatic handler gripper arm ... mounted on guides on arm second link, with gripper operated from rack and pinion on base, which has guides for cross beam" (Title), being a part of any automated system utilizing transporting means, which may comprise an apparatus for treating cytological or histological specimens. The arm comprises first (2) and second (3) partial arms joined pivotably to one another; a rotatable and lowerable gripper (5) with receiving means (6) configured in such way that the gripper can be placed over the object holder from above; the gripper connected to the arm, with the arms and the gripper actuated with a drive belt (12) (Figures 1, 2, col. 1, lines 25-55). The arm is positioned on a base (9), which can be moved horizontally (10) and vertically (11).

6. **Claims 1-5, 21-24 and 28** are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi (US 4,738,824, IDS).

Takeuchi discloses an automated stainer for biological samples, comprising "a support head [a robotic arm] for holding each cage and releasing it in each vessel, the support head being moved in the longitudinal, lateral and vertical directions of the casing; and a controller for controlling the movement of the specimen cage transporting mechanism" (col. 1, lines 48-53, Fig. 1-2).

7. **Claims 1-5, 21-24 and 28** are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (US 6,080,363, IDS).

Takahashi discloses an automated staining apparatus for biological tissues with improvements relative to the prior art disclosing "a three-dimensional driving mechanism comprising a movable beam 3 capable of moving in a horizontal plane in longitudinal directions (in the directions of the arrows a shown in FIG. 24) with respect to the base plate, a movable column 4 capable of moving along the movable beam 3 in a horizontal plane in lateral directions (in the directions of the arrows b) with respect to the base plate, and a hanger arm 5 capable of vertically moving along the movable column 4" (col. 1, lines 27-35). Takahashi indicates: "a driving unit 22 is installed in the cabinet 7 to move the staining basket 13 vertically and

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horizontally in the cabinet 7. In this embodiment, the driving unit 22 comprises a movable column 23 capable of horizontally moving along a longitudinal guide rail 30 installed in a back section of the cabinet 7, and a hanger arm 24 capable of vertically moving along the movable column 23. Drive mechanisms for horizontally moving the movable column 23 and for vertically moving the hanger arm 24 may be known ones. For example, each of the drive mechanisms may be a linear motor, or a cable drive mechanism comprising a drive pulley, a driven pulley, and a cable wound around the drive pulley and the driven pulley and fixed to the movable column 23 or the hanger arm 24. The cable drive mechanism is particularly preferable because an electric motor included in the cable drive mechanism can be disposed at a position where the electric motor may not be exposed to the vapor of a chemical solution produced in the chemical solution vessel" (col. 5, lines 59-67, col. 6, lines 1-9, Fig. 2).

8. **Claims 25-26** are rejected under 35 U.S.C. 102(b) as being anticipated by Laboch et al. (FR 2617077 A1).

Laboch discloses a "handling device [which] includes two grippers 16, 18 carried by the arm 12 of the handling device, the two grippers being moved synchronously and each performing a reciprocating inverted U-shaped movement for transferring a component 22 from one station to the other" (Abstract, Figure 1). The arm 12 is movable in three dimensions; the grippers are moved with the electrical motor and have a common drive (page 4, Figures 1-4). The device is a part of an analytical system, which may be an automated stainer.

9. **Claims 1-3, 5-10, and 21-24** are rejected under 35 U.S.C. 102(e) as being anticipated by Cohen et al. (US 6,293,750 B1).

Cohen discloses "robotics for transporting containers and objects within an automated analytical instrument and service tool for servicing robotics", comprising a robot arm (103) that is movable in three dimensions and provides for arbitrary positioning of the objects; the robot arm comprises at its free end a rotatable gripper, which is actuated via the robot arm (Fig. 7). The robot arm is arranged rotatably at an upper end of a vertically oriented linear shaft (420) and is vertically displaceable along this shaft. The linear shaft is height adjustable. The gripper comprises snap-lock receiving means 105 to be placed on the object holder or specimen from above. The arm with the gripper is rotated with a "theta motor" 170 using drive belt 181 (col. 7,

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lines 11-29). The robotics is a part of an automated analytical system, which may be an automated stainer.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. **Claims 6-10, 12 and 15-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivanov in view of Cohen.

Ivanov does not disclose the arm vertically displaceable along a vertically oriented linear shaft, with the linear shaft being height adjustable.

Cohen discloses exactly such arrangement for his robotic arm.

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It would have been obvious for anyone of ordinary skill in the art to modify Ivanov's robotic arm by replacing the means for the vertical movements of the robotic arm with those disclosed by Cohen, because Cohen apparently improves the arrangement of the structure, making it simpler and more flexible.

14. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ivanov in view of Cohen, as applied to claims 6-10, 12 and 15-20 above, and further in view of the prior art disclosed by Steinhilber (US 5,046,880).

While Ivanov in view of Cohen do not specifically disclose the linear shaft being height adjustable in telescoping fashion, "telescopic adjustable supports in the form of arms or rails are known, with numerous designs for a wide variety of applications", as indicated by Steinhilber (col. 1, lines 7-10).

It would have been obvious for anyone of ordinary skill in the art to slightly modify Ivanov-Cohen's transport device by using telescopic adjustable rail (shaft), as these are well known in the art for various applications as being the most convenient for adjusting height of the support.

15. **Claims 4 and 13-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Bucher et al. (US 4,830,565).

Cohen does not specifically disclose the robot arm comprising first and second partial arms and lowerable gripper.

Butcher discloses exactly such robot arm, which comprises first and second partial arms and the lowerable gripper (Fig. 1). Such arrangement allows to "sample a stack of nuclear fuel pellets P generally at several different predetermined depths" (col. 7, lines 17-22).

It would have been obvious for anyone of ordinary skill in the art to modify Cohen's robotic apparatus for transporting containers with Bucher's arm and gripper, because the latter has more flexibility in its operation, as indicated by Bucher, providing in particular lowering capability for the gripper, which is essential for incorporating robotics into multitask automated analytical instrument.

16. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Laboch.

Although Laboch does not specifically disclose grippers comprising two mutually independent drives, it would have been obvious for anyone of ordinary skill in the art to modify

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Laboch's robotic system by using independent drive for each of the grippers, because it apparently provides more flexibility and operational ability for the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yelena G. Gakh
2/20/04

A handwritten signature in black ink, appearing to read "Yelena Gakh", is positioned to the right of the typed name and date.